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**From:** Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]  
**Sent:** 1/19/2016 6:19:46 PM  
**To:** Grimm, Ann [Grimm.Ann@epa.gov]; Washington, John [Washington.John@epa.gov]; Lindstrom, Andrew [Lindstrom.Andrew@epa.gov]  
**CC:** Biales, Adam [Biales.Adam@epa.gov]; Medina-Vera, Myriam [Medina-Vera.Myriam@epa.gov]; Schumacher, Brian [Schumacher.Brian@epa.gov]; Jones-Lepp, Tammy [jones-lepp.tammy@epa.gov]; Oshima, Kevin [Oshima.Kevin@epa.gov]  
**Subject:** RE: NERL work on PFOA/PFOS in SSWR

Ann,

One change from below specific to NERL.

I would split the 3<sup>rd</sup> bullet to read

- Identification of new perfluorinated compounds
- Collaboration on toxicology studies with NHEERL colleagues over the last decade

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**From:** Grimm, Ann  
**Sent:** Tuesday, January 19, 2016 12:15 PM  
**To:** Washington, John <Washington.John@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>  
**Cc:** Biales, Adam <Biales.Adam@epa.gov>; Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Schumacher, Brian <Schumacher.Brian@epa.gov>; Jones-Lepp, Tammy <jones-lepp.tammy@epa.gov>; Oshima, Kevin <Oshima.Kevin@epa.gov>  
**Subject:** NERL work on PFOA/PFOS in SSWR

All,

Please review and edit as needed. I used a more bulleted format relative to NHEERL but figured Chris Impellitteri could reformat it if needed.

Thanks again for sending me the info

Ann

Current, NERL scientists are working on several PFOA/PFOS related projects, including:

- Identification of sources of PFCs introduced into the environment. In particular, they are focusing on introductions through biosolids land applications and WWTP discharges.
- EPA's Unregulated Contaminant Monitoring Rule 3 data, generated as part of a national occurrence study, is being evaluated in order to locate likely sources of 6 perfluorinated compounds (including PFOS and PFOA) into source water.
- Identification of new perfluorinated compounds, in collaboration with NHEERL colleagues over the last decade.

In addition, over the years NERL has made significant contributions in the field of PFOA/PFOS. Most recently, NERL scientists demonstrated that the primary product of the fluorotelomer industry, commercial fluorotelomer-based polymeric products, degrade to form PFOA and related compounds. Recent paper show these polymers degrade by

hydrolysis and estimates these products might increase environmental loads of PFOA and related several-fold over the next decades.

Here are some Agency impacts of NERL PFOA work:

**Significant New Use Rule.** This proposed rule restricts fluorotelomer-based polymers (FTP) from being used in newly developed products in the carpet and related industries. NERL research was cited in this rule and was the primary peer-reviewed documentation that FTPs degrade in justification of this Rule. Proposed under the Toxic Substances Control Act on August 15, 2012. (<http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPPT-2012-0268-0001>).

**Long-Chain Perfluorinated Chemicals Action Plan (LCPFC).** EPA posted the LCPFC plan in the Federal Register wherein the Agency outlined planned actions to reduce exposure to LCPFCs. NERL research is cited 4 out of a total of 36 citations in the LCPFC Proposed Rule in the Federal Register. Posted January 2015. (<https://www.federalregister.gov/articles/2015/01/21/2015-00636/long-chain-perfluoroalkyl-carboxylate-and-perfluoroalkyl-sulfonate-chemical-substances-significant>).

**Agency Analytical Method.** The EPA Headquarters Office of Water (OW) developed a draft analytical procedure for determining PFCs in sludge based on the extraction, cleanup and analysis procedures developed at NERL. December 2011. EPA-821-R-11-007. (<http://water.epa.gov/scitech/methods/cwa/upload/Draft-Procedure-for-Analysis-of-Perfluorinated-Carboxylic-Acids-and-Sulfonic-Acids-in-Sewage-Sludge-and-Biosolids-by-HPLC-MS-MS.pdf>).

**Amendment to the Polymer Exemption Rule.** This amendment excluded fluorotelomer polymers (FTP) from the Polymer Exemption Rule, a policy stating that other polymers are assumed to be stable compounds. NERL research is the primary peer-reviewed literature documenting that FTPs are not stable. Promulgated under the Toxic Substances Control Act on January 27, 2010. (<http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPPT-2002-0051-0080;oldLink=false>).

**Provisional Health Advisories.** NERL research was identified in paragraph one as justification for OW's Provisional Health Advisories for Perfluorooctanoic acid (PFOA) and Perfluorosulfonate (PFOS). Promulgated January 8, 2009. ([http://water.epa.gov/action/advisories/drinking/upload/2009\\_01\\_15\\_criteria\\_drinking\\_pha-PFOA\\_PFOS.pdf](http://water.epa.gov/action/advisories/drinking/upload/2009_01_15_criteria_drinking_pha-PFOA_PFOS.pdf)).

**Supplemental Environmental Project (SEP).** As part of the largest civil penalty ever obtained by the EPA, \$6.25 million dollars was set aside to perform research on fluorotelomer polymer degradation. Extraction, cleanup and analytical procedures in use for this SEP are based on methods developed by NERL. Agreement formalized December 14, 2005. (<http://www2.epa.gov/enforcement/ei-dupont-de-nemours-and-company-settlement>).

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